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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/045,391	11/09/2001	Sheng-Shing Li	PP/1-22278/P5/CGC 2069	2361

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Patent Department
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EXAMINER	
BOYD, JENNIFER A	

ART UNIT	PAPER NUMBER
1771	

DATE MAILED: 07/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/045,391	LI ET AL.	
	Examiner	Art Unit	
	Jennifer A. Boyd	1771	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 May 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 – 2, 7 – 12, 17 – 19 and 25* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 – 2, 7 – 12, 17 – 19 and 25* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. The Applicant's Amendments and Accompanying Remarks, filed May 10, 2006, have been entered and have been carefully considered. Claims 1 – 2, 7 – 12, 17 – 19 and 25 are pending. In view of Applicant's Terminal Disclaimer over commonly owned US 6,784,235 and exclusion as prior art of US 6,784,235 in the 35 USC 103 rejection, the Examiner withdraws all previously set forth rejections. After another search was conducted and previously cited art was given further consideration, the invention is found to be unpatentable for reasons herein below.

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 102

3. Claims 1 – 2, 7 – 12, 17 – 18 and 25 are rejected under 35 U.S.C. 102(e) as being anticipated by Mor et al. (US 6,146,757).

Mor is directed to wettable polymer fibers, compositions for preparing the same and articles made thereform (Title).

As to claim 1, Mor teaches a wettable fiber or filament having a thermoplastic polymer and a first wetting agent (column 7, lines 65 – 67 and column 8, lines 1 – 5). Mor teaches that the preferred thermoplastic polymer is a polyolefin (column 9, lines 65 – 67). Mor teaches that the first wetting agent can be an ethoxylated alkylphenol having the formula:

$$\mathbf{R} - \mathbf{C_6H_4}\ (OCH_2CH_2)_n\ OH$$

where R is an alkyl group having 8 – 22 carbon atoms and n is a number ranging from about 1 – 10 (see claim 3). The Examiner equates the bolded **R - C_6H_4** to Applicant's "alkyl group"; it should be noted that when R has 22 carbon atoms, Applicant's "alkyl group", has 28 carbon atoms, meeting Applicant's claim.

As to claim 2, Mor teaches that the thermoplastic polymer is preferably a polyolefin such as polyethylene or polypropylene (column 10, lines 1 – 5).

As to claims 7 and 8, Mor teaches the fibers or filaments contain about 1 to about 20 percent by weight of a combination of the first wetting agent and a second wetting agent. Therefore, the first wetting agent would be present in the amount of less than 20 percent by weight of the fiber or filament.

As to claim 9, Mor teaches that the composition comprising the thermoplastic polymer and a first wetting agent can be a blend component for other fibers, equated to Applicant's "bicomponent fiber".

As to claims 10 - 12, Mor teaches that the composition can be in form of a woven, nonwoven or knitted fabric (column 13, lines 28 – 33) made of preferably a polyolefin such as polyethylene or polypropylene (column 10, lines 1 – 5).

As to claim 17, Mor teaches that the fiber or filaments of the invention can be used in products such as diaper inner liners, battery cell separators and filters (column 13, lines 1 – 10).

As to claim 18, Mor teaches a wettable fiber or filament having a thermoplastic polymer, a first wetting agent and a second wetting agent (column 7, lines 65 – 67 and column 8, lines 1 – 5). The Examiner equates the second wetting agent to Applicant's "additional melt blend component". Mor teaches that the second wetting agent can comprise a polyalkylene-modified

polysiloxane (column 8, lines 29 – 53). It should be noted that the second wetting agent comprises a polysiloxane which would make the composition not of formula (I) as required by the Applicant. Mor teaches that the polyalkylene can be an alkoxylated fatty alcohol such as stearyl alcohol (column 9, lines 35 – 40). It should be noted that the compound can be considered to be aliphatic because it is not aromatic.

As to claim 25, Mor teaches that other additives such as a phosphite antioxidant may be added (column 10, lines 40 – 55).

Claim Rejections - 35 USC § 103

4. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mor et al. (US 6,146,757).

Mor teaches a wettable fiber or filament having a thermoplastic polymer, a first wetting agent and a second wetting agent (column 7, lines 65 – 67 and column 8, lines 1 – 5). The Examiner equates the second wetting agent to Applicant's "additional melt blend component". Mor teaches that the second wetting agent can comprise a polyalkylene-modified polysiloxane (column 8, lines 29 – 53). It should be noted that the second wetting agent comprises a polysiloxane which would make the composition not of formula (I) as required by the Applicant. Mor teaches that the polyalkylene can be an alkoxylated fatty alcohol such as stearyl alcohol (column 9, lines 35 – 40). It should be noted that the compound can be considered to be aliphatic because it is not aromatic.

Mor discloses the claimed invention except for that the additional component of ethoxylated stearyl alcohol to the melt blend is present in the amount of 2 moles. However, in the

absence of unexpected results, it would have been obvious to one having ordinary skill in the art at the time the invention was made to optimize the number of moles since it has been held that where general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 220 F.2d 454 USPQ 233 (CCPA 1955). In the present invention, one would have been motivated to optimize the amount of ethoxylated stearyl alcohol in order to create a composition have the desired surface properties.

5. Claims 1 – 2, 10 - 11 and 17 – 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Patel et al. (US 5,348,736) in view of Mor et al. (US 6,146,757).

Patel is directed to a stabilized fiber or hair treating composition comprising a surfactant, water insoluble treating material, water and a long chain alcohol or derivative thereof, which stabilizes the liquid so as to allow storage at elevated temperatures, such as those which can be reached during storage in warmer climates, and which also helps to make fiber and skin treating materials more substantive to fibers and skin (Abstract). The composition provides a softening and antistatic effect (column 4, lines 50 – 65).

As to claim 1, Patel teaches that the composition may be used for treating fibrous materials (column 1, lines 15 – 20), which as fibers and fabrics (column 4, lines 50 – 60), comprising a long chain alcohol preferably containing 30 – 40 carbon atoms (column 3, lines 15 – 25). Patel teaches that the preferred long chain alcohol is an alcohol sold under the name of UNILIN (columns 3 – 4). One of the preferred UNILIN is UNILIN 425 having a weight average content of alcohol of 30 (column 3, lines 64 – 65). Patel also indicates that the corresponding

ethylene oxide derivatives of the UNILIN alcohols can also be used (column 21, lines 40 – 45). Patel teaches that, in some instances, the substantive material will be held to the treated surface despite rising off the composition but in other cases the composition will be applied and allowed to remain on the treated surface, without rinsing or wiping off (column 4, lines 45 – 50).

Patel fails to teach that the fiber or filament comprises a polyolefin and that the long chain alcohol is incorporated into the melt blend rather than applied superficially.

Mor teaches a wettable fiber or filament having a thermoplastic polymer, a first wetting agent and a second wetting agent (column 7, lines 65 – 67 and column 8, lines 1 – 5) useful in products such as diaper inner liners, battery cell separators and other applications (column 13, lines 1 – 5). Mor teaches that the preferred thermoplastic polymer is a polyolefin (column 9, lines 65 – 67) and that the polyolefin is preferably polyethylene or polypropylene (column 10, lines 1 – 5). Mor teaches that the surface active agent, or wetting agent, is introduced into the bulk polymer resin rather than applying it to the surface of the polymer (column 14, lines 25 – 35). Mor teaches that incorporating the surfactant into the melt blend assists in resisting migration and transference of the surfactant (column 5, lines 45 – 50). Mor teaches that in applications such as inner liners for diapers that material such as polyester and cellulose is commonly employed. Mor notes that polyester liners wet fairly readily and wick effectively but polyester webs have a coarse feeling. Polypropylene provides a much softer web than polyester but it wets poorly (column 13, lines 45 – 55). Therefore, the modified web of Mor with integrated wetting agent would provide a soft feel and good wetting properties. Mor teaches that the second wetting agent

can comprise an alkoxylated fatty alcohol (column 6, lines 30 – 35). Mor teaches that in a preferred embodiment that the alkoxylated fatty alcohol is a combination of an ethoxylated cetyl alcohol and an ethoxylated stearyl alcohol and preferably contains from about 2 to 10 moles of ethylene oxide condensed thereon (column 6, lines 40 – 45). Mor teaches that a blend of wetting agents allows a broad range of wetting characteristics. The blend allows control over the degree of wetting and permanence which may be obtained by varying concentrations and the ratio of the first and second wetting agents (column 14, lines 20 – 25). The present fibers are also useful as a blend component for other fibers whereby the thermoplastic properties as well as the wettability, softeners and lubricity of the fibers are found to be advantageous. The fibers or filaments can be in the form of a woven fabric, a non-woven fabric or a knitted (column 13, lines 25 – 40).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use polypropylene, a type of polyolefin, as the fiber of Patel as suggested by Mor motivated by the desire to create a fiber which is very soft and has good wetting properties.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include the surfactant into the melt blend suggested by Mor motivated by the desire to control the degree and permanence of the wetting properties of the fibers.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the fiber of Patel in a woven or nonwoven fabric for applications such as diaper liners and battery separators as suggested by Mor motivated by the desire to use the fibers in final products where wettability is concerned.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a second wetting agent, such as an ethoxylated stearyl alcohol, as suggested by Mor in the fiber of Patel motivated by the desire to control the degree and permanence of the wetting properties of the fibers.

Patel in view of Mor discloses the claimed invention except for that n or Applicant's "x" parameter is 2 or 3. However, in the absence of unexpected results, it would have been obvious to one having ordinary skill in the art at the time the invention was made to optimize the number of ethylene oxide units since it has been held that where general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 220 F.2d 454 USPQ 233 (CCPA 1955). In the present invention, one would have been motivated to optimize the amount of ethylene oxide units based on the desired properties while being easily integrated into the polymer blend.

Response to Arguments

6. Applicant's arguments with respect to claims 1 – 2, 7 – 12, 17 – 19 and 25 have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer A. Boyd whose telephone number is 571-272-1473. The examiner can normally be reached on Monday thru Friday (8:30am - 6:00pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on 571-272-1478. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Jennifer Boyd
July 17, 2006

Ula C. Ruddock
Primary Examiner
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